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CARNEGIE MAGAZINE

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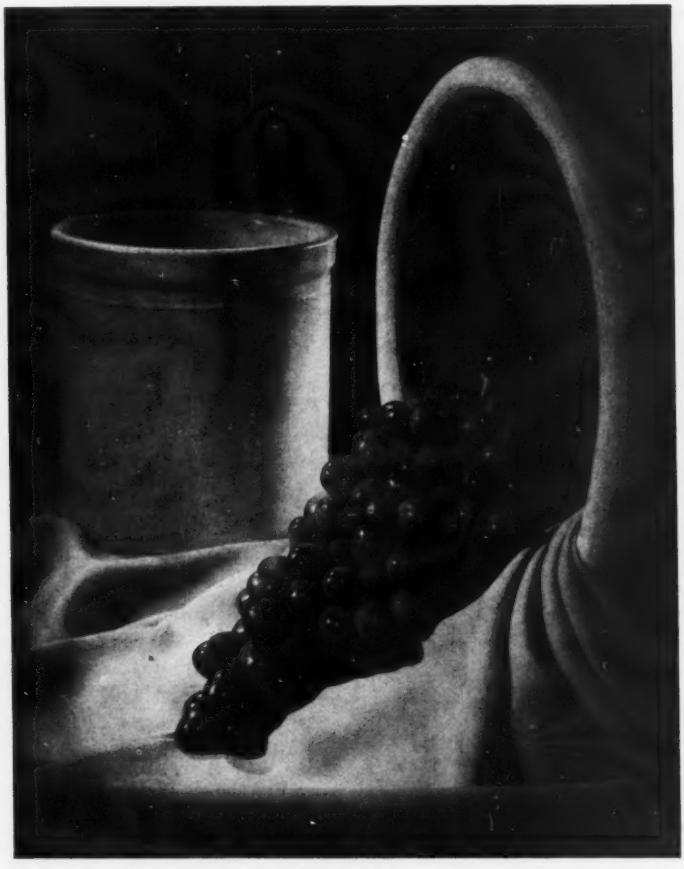
VOLUME XXI PITTSBURGH, PA., APRIL 1948 NUMBER 9



GRAPES By H. J. ENSENBERGER

International Salon of Photographic Art at Pittsburgh

(*See Page 263*)

CARNEGIE MAGAZINE

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CARNEGIE INSTITUTE

JAMES M. BOVARD, Editor
JEANNETTE F. SENEFF, Editorial Assistant

VOLUME XXI NUMBER 9

APRIL 1948

ART AND NATURE SHOP

Dinosaur models
Bronzed *Brontosaurus* (above), *Tyrannosaurus rex*, *Triceratops*, *Stegosaurus*, of reinforced plaster, about four inches high. The first at $2.50, the others, $2.00 each.

Toad on a leaf
Life-size, actual colors, in rubber. $1.00.

Place cards
Decorated with tiny birds of gaily-colored real feathers. From Mexico. $1.00 for a dozen.

Maple-leaf coasters
Looking just like a maple leaf, but of rubber. Four for 50c.

Sea-horse lapel pins
Gilded, silvered, or in pastel shades. Life-size, of rubber. 50c.

Vulpes, the Red Fox
A book for children that will attract adults. Written by a well-known naturalist, John L. George, illustrated by his wife. E. P. Dutton and Co., publishers. $2.50.

OPEN MEETINGS

Numismatic Society of Western Pennsylvania
April 6, 8:15 P.M., Herpetology Laboratory

National Speleological Society
Pittsburgh Grotto
April 11, 2:15 P.M., Herpetology Laboratory

Botanical Society of Western Pennsylvania
April 14, 8:15 P.M., Children's Museum

Audubon Society of Western Pennsylvania
April 28, 8:15 P.M., Children's Museum

CARNEGIE INSTITUTE

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2:00 to 6:00 P.M., Sundays

Carnegie Institute broadcasts
Each Tuesday, 6:45 P.M., from WCAE

FINE ARTS

Flower Paintings by Andrey Avinoff
April 15 through May 23

Pittsburgh Salon of Photographic Art
35th Annual Exhibition
through April 18

Sporting Prints and Paintings
from Pittsburgh Collections
through April 8

Guest Day for Tam O'Shanters
"Design for Spring"
April 10, 10:15 A.M., Music Hall

Mother's Day Celebration
(and Fathers, too)
Morning Palettes—
May 1, 9:15 A.M., Lecture Hall
Afternoon Palettes—
May 1, 2:00 P.M., Gallery "B"

MUSEUM

Nature Contest
May 8, Children's Museum
Grades 5–8, 10:00 A.M.
Grades 9–12, 1:30 P.M.

MUSIC HALL

Organ recitals by Marshall Bidwell
Saturdays at 8:15 P.M.
Sundays at 4:00 P.M.
Sunday recitals broadcast from WPGH

CARNEGIE LIBRARY

HOURS: 9:00 A.M. to 10:00 P.M., weekdays
2:00 to 6:00 P.M., Sundays

Storytelling
Central Boys and Girls Room

For children six to twelve years old,
told by a Library School student
every Saturday morning, 10:30 A.M.

For children three to five years old,
Wednesday, April 14, 10:30 A.M.
with stories told by Laura E. Cathon,
Ann Macpherson speaking to the mothers on
"Recent Books"

Wednesday, April 28, 10:30 A.M.
with stories told by Miss Cathon,
C. Elizabeth Anchors reviewing a book
for the mothers

THREE NEW MINERALS

By David M. Seaman

Associate Curator of Mineralogy, Carnegie Museum

The sun shown very brilliantly the afternoon of August 10, 1946, when two of us were visiting a fossil locality a half mile northwest of Schelocta, Indiana County, Pennsylvania. During his search for fossils my friend, Howard Hamilton, of Vandergrift, happened to break open a clay-ironstone concretion. He noted in its center some tiny amber-colored crystals—the largest not more than a tenth of an inch in length—which in the strong sunlight produced mirrorlike reflections.

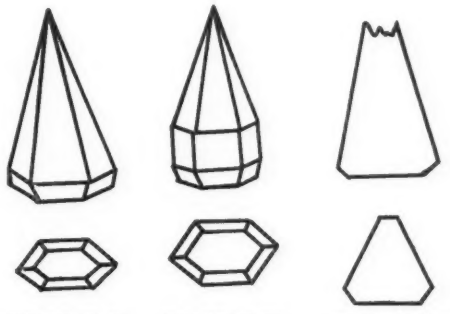
He handed the specimen to me and asked what these crystals were. At the time I was not able to tell, but after getting them back to the Museum and viewing them under a microscope, I decided they must be wurtzite. Accordingly I sent them on to Dr. Clifford Frondel, of Harvard University, who in time informed us that we had found a new polymorphous form of wurtzite. Wurtzite is zinc sulphide, as you may know, and "polymorphous" is the mineralogist's term for "appearing in more than one form."

Further research has revealed two additional polymorphous forms of wurtzite, making three new forms in all for this mineral. The crystals are hexagonal-hemimorphic in crystallization, the two most common polymorphous forms being hexagonal and the other rare form being of trigonal crystallization, as shown in the diagram.

The two common forms of polymorphous wurtzite occur at eleven different places in western Pennsylvania, all in the Pittsburgh area. They have also been found by my friend, Leigh Collins, of Wilkinsburg, in an old shale quarry near Glouster, Athens County, Ohio, southwest of Pittsburgh. All these polymorphous forms have been discovered in the Baltimore and Ohio Railroad cut at Wittmer, about two miles north of Etna, a suburb of Pittsburgh. The trigonal type has been found only at the locality near Etna.

All occurrences of the wurtzite polymorphs are in clay-ironstone, that is, siderite concretions in concretionary layers at various horizons above the Brush Creek limestone of the lower Conemaugh Formation of the middle Pennsylvanian Period, except one which is some ninety feet above the Upper Cambridge (Pine Creek) limestone. The Upper Cambridge limestone occurs along the upper bench of the railroad cut north of Etna, where both limestones are present. With the exception of this locality, all search has been confined to the outcrops of the Brush Creek limestone, but further investigation should reveal other localities at the Upper Cambridge limestone horizon.

The associated minerals include barite in platelike form and granular and



WURTZITE-4H WURTZITE-6H WURTZITE-15R

crystalline calcite, in both of which the polymorphs are often imbedded; platy and curved sphalerite, which is usually in intimate association; and pyrite and chalcopyrite, both granular and crystalline, common at some localities.

The conditions for formation of these new wurtzites must have prevailed over long distances, for they have been discovered in western Pennsylvania over an area of about forty square miles in extent. Since they have also been found near Glouster, Ohio, some one hundred and twenty-five miles southwest of Pittsburgh, it seems very probable that they should exist at other places in between, thereby greatly extending their known distribution. They should also be found in West Virginia and Maryland, where the same formations are known to be present. A specimen of a fossil cephalopod was found at the Wittmer locality last June that showed in broken cross section the tiny polymorphous wurtzites between its sutures. This shows that the wurtzites were formed at nearly the same time as the concretions containing them, or about 250 million years ago. The concretion in which the fossil was found had no outside breaks leading into its center. Thus the wurtzites must have formed shortly after the first deposition of the concretions and before their completion. The association of the wurtzites with fossils in other concretions at a number of localities leads to the same conclusion. Some of the concretions have small nut-like nuclei in their centers, around which the polymorphous wurtzites have crystallized and which break out freely when the concretions have been broken.

No common type of wurtzite has yet been found in western Pennsylvania. The common type has been found only in mineral veins, while the polymorphous forms are unique in being found in concretions, their first reported occurrence in this manner in the world. The polymorphs form a series with common wurtzite of different internal structures, which is similar to that found in artificial silicon carbide. It is the first such polymorphous series found in natural crystals of any mineral. Western Pennsylvania will no doubt become famous for these new forms of wurtzite.

THE INTER-PROFESSIONS CONFERENCE

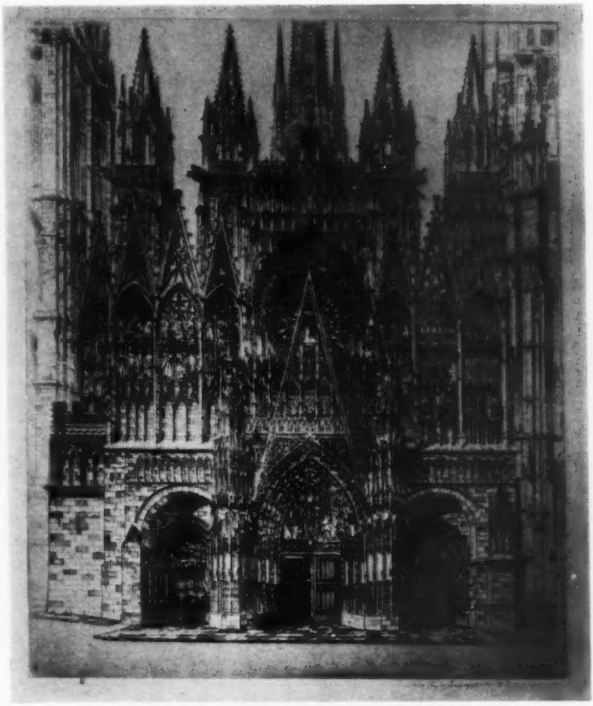
AN "Educational Olympics" is Elliott Dunlap Smith's description of the meeting of national leaders in education that is planned for April 12-14 at Buck Hill Falls, Pennsylvania, under sponsorship of the Carnegie Corporation of New York. The exact name of the meeting is "Inter-Professions Conference on Education for Professional Responsibility," and it will be attended by one hundred invited educators in law, medicine, divinity, business and engineering.

Each of the three days the group will consider a separate topic. These are: "The Evolution of Educational Aims with Changing Conditions of Professional Practice and Responsibility," with Donald K. David, dean of the Harvard Graduate School of Business Administration, presiding; "Content and Methods of Instruction in Professional Subjects," under the leadership of President Karl T. Compton, of the Massachusetts Institute of Technology; and "Education of Professional Students for Dealing with Human and Social Problems, for Leadership of Public Opinion, and for Humane Living," with Arthur T. Vanderbilt, dean of the Law School of New York University and former president of the American Bar Association, presiding. Professor Smith is chairman of the planning committee, and the speakers each day will be leaders in the five professions.

The aims of the conference, according to Professor Smith, are: "How to train the professional man to deal with a specific problem in his field; how to train him to see a specific problem in relation to its social, legal, or other implications; how to make him a good citizen; and how to train him to be prepared for professional or social change."

THE LEISSER GIFT OF PRINTS

THE Department of Fine Arts announces the welcome addition of thirty-three contemporary American prints to its permanent collection. This is the seventh annual gift of prints from the Leisser Art Fund, provision for which was made in the wills of Martin and Charles Leisser. These accessions bring to a total of one hundred and seventy-eight the contemporary prints that have come to the Department through the Fund since it was established in 1941. That first year the group included nineteen, and thirty-five were presented in 1942. In 1943 there were thirty-three prints, in 1944 thirty-two, and in 1945 fourteen. The 1946 gift comprised twelve, including five aquatints and drypoints by Mary Cassatt, one of the outstanding women artists of all times.



LACE IN STONE, ROUEN CATHEDRAL
Etching by John Taylor Arms

The most notable of the prints just acquired is *Lace in Stone, Rouen Cathedral* by John Taylor Arms. An etching done in 1927, it is Number 18 in the series of French Churches made by the artist. It was shown at Carnegie Institute in 1946 in the exhibition, "Selected Examples from Thirty Years of Etching by John Taylor Arms." The impression is an especially fine one and came from the collection of the artist's wife.

Twelve of the prints purchased were included in the exhibition of Current American Prints shown at the Institute from October 9 through December 28, 1947. They are: *The Artist's Studio* (lithograph) by Maxil Ballinger, *Church in Luxembourg* (lithograph) by Aaron Bohrod, *Jungle, Brazil* (wood engraving) by Bernard Brussel-Smith, *Kunming Bus* (etching) by Federico Castellon, *Nassau Hall from Chancellor Green* (drypoint) by Samuel Chamberlain, *Farm in South Essex* (planograph) by Lester G. Hornby, *Girl's Head* (lithograph) by Max Kahn, *Weltschmerz* (lithograph) by Rockwell Kent, *Girl*

with Bouquet (lithograph) by Peppino Mangravite, *Evening Music* (aquatint) by Doel Reed, *Concert Impression of Rudolf Serkin* (lithograph) by Eugene Spiro, and *Fabric of Lost Time* (color etching and engraving) by Charles F. White.

The other twenty graphic works presented through the Leisser Fund are: *Hombre que sin Verguenza* (lithograph) by George Biddle; *Duck Hunter* (color lithograph) by Arnold Blanch; *Etude d'un Poete* (etching) by Arthur W. Heintzelman; *"Clams" and Ships, Gloucester*, and *Ipswich*, three planographs by Lester G. Hornby; *Breaking Camp* (woodcut) by Clare Leighton; three drypoints by Martin Lewis entitled *Arch, Midnight, Day's End*, and *Passing Freight; Old Wood* (lithograph) by Ella Fillmore Lillie; *Poor Man's Cow* (etching) by Norman Merritt; *Edge of the Pasture* (woodcut) by Thomas W. Nason; *Near the Abbazia, Venice* (etching) by Joseph Pennell; *Montague Place* (lithograph) by Fermin Rocker; *Mending* (serigraph) by Harry Shoulberg; *Rue de la Parcheminerie* (etching) and *San Pietro de Castello* (drypoint) by Herman A. Webster; *The Church* (lithograph) by Stow Wengenroth; and *Mark Twain* (lithograph) by S. J. Woolf.

This gift is a fitting expression of the interest of the Leisser brothers in art and in the Carnegie Institute, and the ever growing collection of prints is, in turn, an appropriate memorial to the two brothers. Martin B. Leisser was a trustee of Carnegie Institute from 1910 to 1915, and his canvas, *Franciscan Church of Rothenberg*, is in the permanent collection of paintings. He was head of the Pittsburgh School of Design and later of the art department of the Pennsylvania College for Women. He died May 17, 1940. His brother Charles, who preceded him in death, was his constant companion and was interested with him in everything that pertained to Carnegie Institute. —J. O'C., Jr.

[Three of the prints acquired are pictured in Carnegie Magazine for December 1947.]

THE FINE ARTS AND MUSEUM SOCIETY

Pittsburgh Sun-Telegraph

CLUB WOMEN ENJOYING MUSEUM FANS

The Allegheny County Federation of Women's Clubs with membership of 18,000 has adopted as a major project the securing of memberships for The Fine Arts and Museum Society of Carnegie Institute. The goal of the club women is to obtain 20,000 members.

Carnegie Institute's co-operation with the school systems of Allegheny County makes this project highly suitable as a part of the Federation's Youth Conservation program.

The Federation has announced through its president, Mrs. Earle A. Brown, that the county-wide membership campaign, which will continue until fall, will be headed by Mrs. Charles L. Gordon for the senior clubs and Mrs. Charles T. Atwell directing the Junior groups.

The following types of membership are available in The Fine Arts and Museum Society of Carnegie Institute:

Annual Student Member	$2.00
Annual Associate Member	$5.00
Annual Supporting Member	$15.00
Annual Contributing Member	$25.00
Annual Sustaining Member	$100-1,000
Life Member	$1,000
Fellow	$2,000-25,000

SPRING PARADE OF PHOTOGRAPHS

By Margarette Morgan

Member, Photographic Section, Academy of Science and Art of Pittsburgh

The thirty-fifth annual Pittsburgh International Salon of Photographic Art, showing at Carnegie Institute until April 19, comprises more than two hundred photographic prints representing the finest work of photographers, both in the United States and abroad.

Before the opening date of the Salon, the Photographic Section of the Academy of Science and Art of Pittsburgh, sponsors of the exhibit, sent out entry forms to hundreds of prospective exhibitors. This invitation resulted in the receipt of some eight hundred photographs of very high quality, the preponderance of these coming from the United States but also representing Canada, Denmark, England, Holland, and Mexico.

The judges, chosen for their outstanding knowledge and ability in photography, were Charles B. Phelps, Jr., F.P.S.A., A.R.P.S.; George Richmond Hoxie, A.P.S.A.; and David J. Stanley. They chose from the entries those prints that were salient in novelty of subject, imagination, and perfect technical execution. All the prints submitted were examined several times by the jury, thus insuring that no picture of merit was rejected. Very few of the rejected photographs were of less than Salon quality, but, because of the extremely high standard maintained by the Pittsburgh Salon, some six hundred were finally discarded.

Among the contributors whose pictures were accepted are several Pittsburghers: F. Ross Altwater, Robert Berry, Lou Ferris, Frederick W. Henrici, Doris Jacoby, S. J. Link, and O. E. Romig.

Synonymous with the word "steel" is Pittsburgh. Mr. Altwater's portrait of phases of steel-making in Pittsburgh mills not only dramatizes the steel industry, but presents pictorial photography at its very best. Mr. Berry's entries of suburban snow scenes show another and prettier facet of the Pittsburgh landscape. The very fine human-interest portrait by Lou Ferris is most pleasing by any photographic standard. Mr. Henrici's treatment of a group of houses at a roof-top angle results in an unusual and interesting print. Doris

SAN MIGUEL by Cecil B. Atwater, F.R.P.S., F.P.S.A.

FEATHERS BY PAUL HYNES

Jacoby submitted a very fine head-study of a dog. Mr. Link, employing a carbro process on still life, gives a delicate and colorful aspect to his print. The vivid and striking photograph of Pittsburgh's mighty rivers, submitted by Mr. Romig, completes the local entries on display. The average Pittsburgher, who daily passes by, casually accepting the color and motion of a steel town's activity, should feel deep pleasure in viewing familiar sights and scenes beautifully photographed and dramatically presented.

The diverse subject matter of the other prints in the Salon ranges through landscapes, marine scenes, snow scenes, portraits, still life, flower, children, and animal pictures, to a small sprinkling of photographs in the abstract. Just as certain schools of painting subscribe to the abstract, a parallel trend in certain phases of photography is to be noted. One picture unanimously accepted by the judges consists of feathers so lighted and composed as to make a most interesting abstract, showing texture and design.

Since the inception of color photography, each year finds a few more pictures of this kind being submitted. Although fewer, color prints accepted for the present Salon do not suffer by comparison with the black and white or toned pictures.

Ever a subject for debate among pictorial photographers are the questions of toning and the size of a print. Many of the pictures in this year's exhibition are appropriately toned. Snow scenes, water scenes, and certain types of still life are more attractive for a blue tone. Others have a brown or sepia color to relieve the monotony of black and white. While most of the prints are in the popular 16" by 20" or 14" by 17" dimensions, there are sufficient smaller-sized prints to refute the argument that only a large picture is Salon material.

In the history of the Pittsburgh Inter-

STALWART BY HAROLD ELLIOTT

national Salon there have been years when the number of entries has totaled over two thousand and the accepted prints numbered more than three hundred. Although this year's Salon does not equal previous records in quantity, the quality more than guarantees its being one of the best to be presented in Pittsburgh.

Showing in conjunction with the Salon of Photographic Prints is the Salon of Color Slides. This jury was composed of John C. Moddejonge, a member of the Photographic Society of America color committee and print director of the Cleveland Photographic Society; Homer E. Sterling, assistant professor of graphic arts, Carnegie Institute of Technology; and Ottmar F. von Fuehrer, staff artist, Carnegie Museum. Again, skillful handling of color technique, composition, and originality of subject matter were essential for acceptance. From over twelve hundred color slides submitted, the judges chose one hundred and fifty entries which were shown in the Carnegie Institute Lecture Hall the afternoons of March 21 and 28.

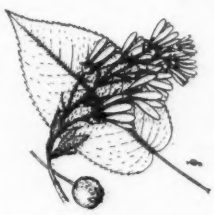
PICTURES FOR SCHOOLS

THE One Hundred Friends of Pittsburgh Art have announced their purchases from the thirty-eighth annual exhibition of the Associated Artists of Pittsburgh. These paintings are presented to The Board of Public Education for the public schools of the city.

These include five oils: *Spruce Creek Valley* by Albert Davis, *Wilkinsburg Lay Over* by Robert Laughlin Smith, *Pittsburgh Phenomena* by John D. Clarkson, *271 Fourth Avenue* by Charles Le Clair, and *Gasoline Station* by Leonard Lieb; a water color, *Rainy Day in Pittsburgh*, by Dorothy J. Adams; and a black and white, *Oakland from Mount Mercy*, by Sister M. Hilda Giegerich.

James M. Bovard succeeds the late William Frew as secretary-treasurer of the One Hundred Friends of Pittsburgh Art.

TREE OF THE MONTH



DANGLING alder catkins along the creek, the shrilling of spring peepers in the pool, mottled spathes of skunk cabbage in the swamp, and the "peto-peto" of the tufted titmouse overhead—these all mean spring to the wanderer afield.

From the rocky New England coast in early spring the upriver run of the shad is heralded by the massed white flowers of the shad-blow. Here in our own region, known variously as the shad-bush, Juneberry, or serviceberry, this small slender tree bursts forth in early or mid-April with half-drooping clusters of pure white flowers. When viewed against the dark background of still leafless woods, flowering shad-blows stand out sharply. Viewed from beneath, against a bright sunny sky with flat-bottomed, snow-white clouds, they become well-nigh invisible.

The shedding of the straplike, half-inch-long petals of the shad-blow is followed in a few weeks by the ripening of dark purple fruits about the size of a blueberry. Known as Juneberries, sweet and well-flavored, these fruits are eagerly devoured by more than two score kinds of birds and mammals. Lucky is he who in our region finds a Juneberry tree with ripe fruits, for there is too much competition in the search for these woodland delicacies. The early Indians crushed and dried them into cakes for use later in making corn-meal bread. Juneberry or serviceberry pies and muffins are still held in high esteem in some outlying rural sections.

Wherever found—along woodland borders, perched on rocky stream-side bluffs, on wooded ravine slopes, even in our city parks—it is a sure sign of spring when the shad-blow blooms.

—O. E. J.

A BRONZE BY BOURDELLE PRESENTED

A BRONZE, *Herakles—Archer*, by Émile Antoine Bourdelle (1861-1929), French sculptor, has been presented to Carnegie Institute by Mrs. Lambert G. Oppenheim of Cleveland, formerly Mrs. Albert C. Lehman of Pittsburgh.

This is not the first gift by Mrs. Oppenheim to Carnegie Institute. In 1938 she gave the painting *The Studio* by Felice Carena, in 1941 *Interior* by Alexander Brook, and in 1942 *Still Life with Violin* by Georges Dufrénoy and *Fiesta in Mallorca* by Joan Junyer. These paintings were given in memory of Albert C. Lehman, industrialist, a trustee of Carnegie Institute, and the donor of the Lehman Prize and Purchase Fund in Carnegie Internationals.

The bronze by Bourdelle is twenty-three inches in width by twenty-five and one quarter in height. It is titled on the right front, *Herakles—Archer*, and is signed in the lower right, "Antoine Bourdelle," and dated 1908-09. On the lower edge of the rear of the bronze is inscribed that it was a special casting for Albert Lehman. It is said that Bourdelle began to work on the figure in 1900 and that it took him seven years to complete the first version. There are slight modifications and refinements introduced into the 1909 composition.

Herakles is considered by critics to represent best the great sculptor's genius as a whole. The theme is one of the twelve labors of Herakles, the destruction of the Stymphalian birds. Of this work, Louis Gillet writes:

"The whole body of the formidable archer is action. The god, whose small flat head resembles the point of an arrow carved from a piece of split flint, is seated firmly on bended leg, his foot planted in the earth like a wedge and forming the pivot of the whole figure; the rest of the body, the torso bent forward, the left leg arched on a rock, is only an arc, a concave curve, an immense hook which draws to itself the branch of the convex arm; from the gripping toes to the trembling nostrils and the piercing glance all is energy, contraction, effort. The whole figure is taut as a gigantic spring. One sees here that which separates mere representation from the embodiment of an idea, the work of a skillful hand from the work of thought."

HERAKLES - ARCHER BY ÉMILE ANTOINE BOURDELLE

Bourdelle, at the time of his death in 1929, held the foremost place among French sculptors, succeeding to the position of Rodin. He was a pupil and friend of Rodin and worked in his studio. Born in 1861 at Montauban in southern France, he was the son of a master woodcutter and received his first

instruction in sculpture from his father. From him he inherited the respect for materials and the pride in fine craftsmanship that characterize the conscientious builder and the capable artisan. He studied drawing with a pupil of the great Ingres before he went to Toulouse to take up sculpture and painting. There he won a scholarship and went on to Paris, where he studied under Falguière. When Bourdelle was twenty-five he entered the studio of Rodin and was a pupil for ten years, leaving in 1909 to open a studio of his own.

His talents were many: he was a painter, critic, poet and musical composer, as well as sculptor. To all these he brought a vital genius, and in his sculpture it takes the form of a spirit at once modern and archaic, with the emphasis placed on design and structure rather than on detail. He made many public monuments throughout the world and statues or busts of nearly all the important men of Europe of his time. —J. O'C., Jr.

SPEAKING OF PORCELAIN

The chief distinguishing characteristic between pottery and porcelain is composition. While pottery can be made of almost any clay, porcelain is composed of fusible silicates of alumina, called petuntse from the Chinese, and non-fusible silicates of alumina, called kaolin from the Chinese, China stone or China clay by the English. True porcelain is not porous, cannot be scratched with a steel knife, is generally more translucent than pottery or stoneware, is fired in successive stages with increasing temperatures, and, if the kaolin be pure, is usually whitish. Mineral oxides present in the clays used may develop other colors than white in the body. Glazes may be applied in the original or in later firings. Unglazed porcelain is known as biscuit, bisque, or Parian ware.

Porcelain was first developed in China. After the fifteenth century it began to be imported into Europe, where many attempts were made to duplicate it. The first European porcelain was made by Johann Friedrich Böttger in either 1708 or 1709 in Saxony, and there was established at Meissen in 1710 a factory for the manufacture of porcelain which by 1715 was producing porcelain in marketable quantities.

The word "china" is properly used as a synonym for porcelain since it originally designated the porcelain pieces imported from China; in this country it is now commonly applied to the various vitreous wares developed for everyday use. European soft-paste porcelain is not true porcelain but a pottery ware whose body was mixed with ground glass in order to give it a translucent property that frequently exceeds that of true porcelain. English soft-paste porcelain or bone china is a ware in which the ashes of calcined bone partly replace the kaolin content. Chinese soft-paste porcelain is a ware in

BLUE LIDDED VASE WITH MEISSEN MARK

which soapstone or a similar substance is mixed with the petuntse and kaolin to permit firing at lower temperatures than those required for true porcelain. Sometimes this soft-paste porcelain is applied as a slip over true porcelain. Other names, such as salt-glazed ware, are frequently applied to porcelain, but they indicate only the technique of glazing and can also be correctly applied to pottery glazed with the same technique. Thus such designations are not indicative of true porcelain.

The specimens on display in the Gallery of Useful and Decorative Arts illustrate the products of European factories. At Meissen, as has been said, porcelain manufacture was under way in 1715. Meissen and Dresden are interchangeable names for this ware, since the porcelain manufactories of Dresden are outgrowths of the Meissen factory and produced the same general wares. In 1743 the Capo di Monte manufactory was established near Naples. Höchst wares were produced in 1746, and Frankenthal in 1755. In France the Limoges wares were first made in 1771, the Sèvres, the following year. Some of these factories were new developments; others, such as the Limoges and Sèvres, were old pottery factories part or all of whose production was changed over to porcelain.

The bisque figures in the case are undated, unmarked, but illustrate bisque ware.

Many of the famed European factories, particularly Meissen, have been imitated so often and so well, both in design type and in maker's mark, that it has become the business of a specialist to distinguish between original pieces and reproductions. —J. L. S.

DR. DOHERTY LOOKS HAPPY BREAKING GROUND FOR THE SYNCHRO-CYCLOTRON

ALSO PLEASED: DR. HUTCHESON, MR. BAUDINO, AND DR. CREUTZ

RESEARCH CENTER

On March 12 President Robert E. Doherty turned the first spadeful of earth for Carnegie Tech's Nuclear Research Center at Saxonburg, twenty-eight miles northeast of Pittsburgh. The Center will house the projected 350-million-electron-volt synchro-cyclotron. Interested bystanders included Dr. J. A. Hutcheson, of Westinghouse Electric Corporation; Joseph Baudino, of station KDKA; and Dr. E. C. Creutz, of the physics department at Tech.

THANK YOU, MR. CARNEGIE!

In the fall of 1939 a small group of glass collectors was invited to meet at the Carnegie Museum to consider formation of a club. The invitation came from Marion Comings, then head of the art division of the Carnegie Library. Thus was born the Pittsburgh chapter of the Early American Glass Club. The Museum kindly offered the use of the Children's Museum for monthly gatherings, which later were held in the lecture hall of the Carnegie Library School, and Miss Comings helped to stimulate interest by making available books on glass and New York auction catalogues.

Within two years the Club was averaging between thirty and sixty members at each meeting. Projects of study were centered about all the early factories—Stiegel, South Jersey, the New England Glass Company, and Sandwich. By the second year the Club was well embarked on interesting research about Pittsburgh glass houses and products. Though the demands of a country at war limited attendance at meetings during the middle forties, vitality of interest in glass kept the group alive and growing. Throughout all periods the Carnegie Institute has hospitably furnished a meeting place and has been a focal point for study.

The Club's first public appearance, 1940-42, was a small exhibit of Pittsburgh glass from earliest times (1798) to 1890, presented chronologically in a case in the Hall of Useful and Decorative Arts. The whole exhibit was divided into three periods, each display remaining about four months. The background and purposes of each were written for CARNEGIE MAGAZINE.

It is very fitting that dues in the Club were kept ridiculously low. I know of no other organization that has so well exemplified the spirit in which Andrew Carnegie gave the Library and the Museum. Everybody was welcome!

FREE-BLOWN SWEETMEAT, PROBABLY EARLY PITTSBURGH, 7½ INCHES HIGH

Consequently the Club has remained in the condition so well described by Wilkins Micawber: "Annual income twenty pounds, annual expenditure nineteen nineteen six, result happiness." Since the war, however, membership has grown and dues have been increased. The first accumulated reserve has been gratefully used to buy the piece of early blown Pittsburgh glass shown here, for presentation to the Carnegie Museum.

The small, free-blown, covered sweetmeat is a good example of the technique that preceded pressed glass. Since this type of individual workmanship was current in most American glasshouses of the second quarter of the nineteenth century, it would be foolhardy to insist that this particular piece was made at Pittsburgh. The baluster stem, however, and the rather solid lines of bowl and cover bespeak Pittsburgh design. The bowl will help to fill the gaps between the Curling decanters and the collection of pressed glass lately presented by Mrs. Lilian I. Ball. —L. I.

RADIOACTIVE TRACERS IN METALLURGICAL RESEARCH

By W. O. Philbrook and Anthony L. Antin
Carnegie Institute of Technology

World War II drew heavily upon American manpower, wealth, and natural resources. It also, as a war which brought about some of the greatest scientific and technological developments in the history of mankind, drew heavily on the nation's bank of fundamental scientific knowledge. So much so, that the end of hostilities saw the stockpile of fundamental information dangerously low.

Since July 1, 1946, the Carnegie Institute of Technology Metals Research Laboratory has been engaged in a broad integrated fundamental research program designed to add to the knowledge of the basic science of metallurgy and, in doing so, has been a participating unit of an over-all Office of Naval Research program to replenish this nearly exhausted bank of fundamental scientific knowledge.

Of particular interest in the Carnegie program is the important use to which radioactive tracers are being put—one of the first large-scale uses in metallurgy by a university laboratory of radioactive material.

Radioactive isotopes are no different from ordinary forms of the same element so far as their behavior in chemical reactions or physical changes, except that every so often one of the radioactive atoms explodes, giving off energy in one or more of several possible forms and usually changing to a different element. The energy given off is the telltale that enables the experimenter to locate the disintegrating atom and therefore other atoms of the same chemical nature that would have followed the same reactions. The fact that a different kind of atom may result from the radioactive decay is not troublesome because it occurs after the atom has given its information and is no longer of use as an individual. Radioactive isotopes exist naturally for only a few elements such as radium or uranium, but tracers for a great many of the ninety-six known elements are now being artificially made in the "atomic piles" of the Atomic Energy Commission or by bombardment with appropriate particles in cyclotrons.

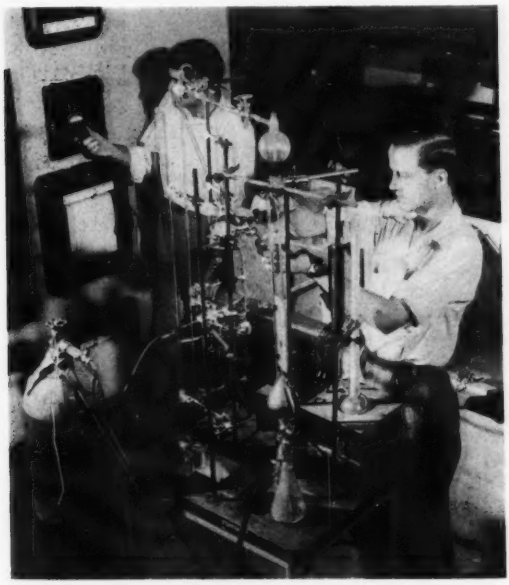
Checking radioactivity by Geiger-Muller counter in hood for experimenting with radioactive tracers.

Tracers have been used in the Metals Research Laboratory in seeking the sulfur-transfer coefficients and calcium-deoxidation constant in experiments on

the reactions between slag and metal layers, in the work on the self-diffusion of iron, in studies of the mechanism of scaling iron, and in efforts to examine micro-segregation. It is planned to use them even more extensively in further research.

With radioactive calcium already in the laboratory, the Carnegie metallurgists are pushing the work for determining the solubility of calcium in liquid iron and the calcium-oxygen equilibrium in iron, which are of interest in the theory of steel-making. This is an excellent illustration of the application of radioactive tracers to a research problem that cannot be solved in any other way. Classical methods of chemical and spectrographic analysis are not sensitive enough to detect any solubility of calcium in steel, but extremely low concentrations of calcium may be detected if some of the calcium atoms are radioactive. The radioactive calcium will, of course, behave chemically the same as ordinary calcium, and the radioactivity will not be altered by high temperatures.

The use of radioactive tracers by the Carnegie Laboratory has made it possible for the staff to study diffusion mechanisms in oxide films and thereby to investigate the processes of the scaling of metals. In working with iron, for example, a very thin layer of radioactive iron is electroplated on a polished surface of pure iron. The metal is then oxidized under controlled atmosphere and temperature, and the scale formed is stripped off in very thin layers by acid etching. The distribution of radioactive iron through the scale yields information as to whether the scale builds up by diffusion of oxygen to the iron or of iron to the oxygen. It has already been found that the mechanism of oxidation is more complex than earlier investigators suspected. The work has been expanded to include scaling under conditions to produce all the possible combinations of single and multiple iron-oxide layers.



Students in the Metals Research Annex laboratory with apparatus for controlling atmosphere and temperature for diffusion specimens. The Annex is more familiarly known as the "Glory Barn."

The handling of the radioactive materials used in the project, naturally, presents a potential health hazard which requires that suitable safeguards be enforced. Recently Carnegie Institute of Technology established a five-man Committee on Special Research Materials to set school-wide regulations and procedures for securing and working with radioactive and other hazardous materials.

In the Metals Research Laboratory project health-safety regulations have been carefully worked out by experienced members of the senior staff and a consulting radiologist retained by the project, taking full advantage of bulletins issued by the United States Atomic Energy Commission and such infor-

mation as has been available from experience of the Manhattan district project. Fortunately, comparatively little danger is involved in intelligent handling of the tracers used in this metallurgical research because of the small quantities used and the low level of activity of the samples. In fact, it has proved to be a greater problem to devise means of counting low-energy beta rays than to provide proper protection of personnel from radiation.

The health regulations emphasize personal responsibility of each individual on the project for his own safety, with close control over access to areas where radioactive materials may be encountered to prevent accidental exposure of uninformed personnel. All employees having regular access to such areas are fully instructed as to safety precautions by group meetings and by distribution of health rules and an information manual. Responsible staff members are, of course, alert to correct any infractions of the rules, but individual responsibility for cognizance of levels of radioactivity and personal welfare, rather than police authority by supervisors, is the rule.

Health regulations provide for periodic blood counts, medical examination if indicated, and rotation of personnel where necessary to minimize the cumulative effect of irradiation. The rules specify the minimum requirement for checking hands, body, clothing, and working areas for radioactive contamination, together with maximum permissible limits for such counts. All counts and "exposure meter" readings must be recorded.

Important and interesting as the work with radioactive tracers may be, it represents only a part of the over-all Carnegie-Naval research program. The project workers are concerned, primarily, with the rates and mechanisms of metallurgical reactions in molten metals and in solid metals.

In the section on liquid metals, the efforts of the staff have been directed mainly toward a study of the reactions in steel-making and, particularly, the measurement of activities of constituents in liquid metals and slags and the mechanism of reaction across a slag-metal interface.

The work of the solid metals section has been mainly concerned with the rates of diffusion and concepts of interatomic forces and activities in solid solutions which may be inferred from diffusion data.

Although the Carnegie program is intensive and organized into specific channels of research, as outlined above, flexibility is being maintained so that emphasis can be shifted to allow for unexpected results in the experiments and concurrent developments in the metallurgical research field at large. The entire program is aimed at making the largest deposit possible in the bank of fundamental scientific knowledge.

DINOSAUR BALL

BEAUTY and the dinosaur will revel the evening of May 21 at the Hotel Schenley, at a dance being planned by a group of young friends of Carnegie Institute for benefit of The Fine Arts and Museum Society. Costumes inspired by the beautiful and fantastic in the collections of the Fine Arts and Museum departments of the Institute will compete for prizes at the ball, and decorations and entertainment features promise to be completely "out of this world."

Virginia Belle Reed is chairman of the Dinosaur Ball, with William R. Oliver acting as honorary chairman. The various committee chairmen include William C. Adams, Frank Bradenbaugh, Joan Casey, John Conner, Blaine Fairless, James Fisher, William Floyd, Mrs. John H. Gellatly, Byron Henderson, Dorothy Kantner, Robert S. Kimball, Jr., James W. Lindsay, Mrs. Charles McFeely, Jr., Mrs. Carroll Miller, William Miller, John Patterson, James Ross, Cordelia Scaife, Louise Shanahan, Mrs. Howard H. Stewart, James L. Stuart, Jr., and Dorothy Willison.

HAVING A MICE TIME

By Shirley Anne Macmillan
Section of Mammalogy, Carnegie Museum

A vacant lot located in a suburb of a great city is, to most people, only a piece of land, unused and waiting for someone to build a home on it. That's what the lot next to my home in Forest Hills was to me until the bright idea of doing a research project there developed. My thoughts on the subject were very hazy—just vague notions about discovering what small mammals inhabited the lot. I took my plans to J. Kenneth Doutt, curator of mammals at the Carnegie Museum, and with his help, encouragement, and guidance the vague notions became a concrete project.

W. J. Hamilton, Jr.

MICROTUS—NICE TO HAVE AROUND

The purpose of a study of the small mammal population of a suburban lot may be discovered by asking oneself several questions:

What genera, or kind, of mammals do live in such a habitat and in what numbers do they occur?

If animals do inhabit the lot, have they any definite home ranges, that is, a certain small area within which they confine their individual struggles for existence, or do they wander aimlessly about the lot?

If more than one genus occupy the lot, do they differ in habitat preference, time of activity, extent of home range—assuming that they have one—and density of population?

What are the ages and breeding conditions of the various mammals, and do these factors have any bearing on their movements?

Do weather conditions have any apparent effect on the activity of the mammals, and if so, what?

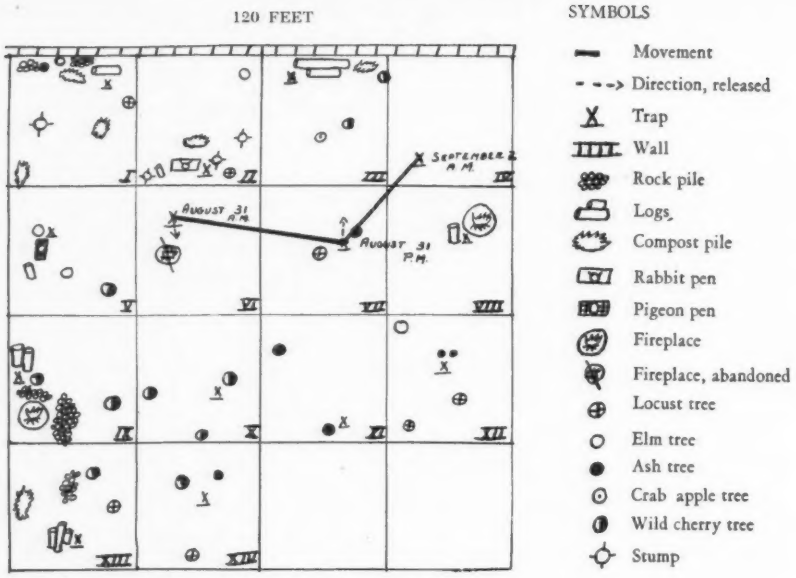
Are there any evidences of parasites and disease?

Last, how does a vacant lot habitat compare with a woodland habitat and a country meadow habitat?

The answers to at least some of these questions seemed to lie hidden in my next-door lot, once the idea occurred to me, in August two years ago, and so I did my best to dig them out, however incompletely, in the last week of that month.

The lot itself is located between numbers 237 and 251 Woodside Road, in Forest Hills, a suburb of Pittsburgh. It is roughly square, with a total area of about one third of an acre. Located halfway up a hill, the lot has an altitude of 1,180 feet and a 16° slope. Characteristic plants and trees are elderberry, goldenrod, grasses, ragweed, jewelweed, elm, ash, wild cherry, and locust. About one-half the lot tends toward the woodland type, the other half toward the meadow type. The lot was divided into several thirty-foot-square sections, the sections assigned numbers, and the important features in each noted. (*See diagram.*)

For me to discover anything about the small mammals of this lot, they had to be caught alive and then marked so that, if they returned, it would be possible to tell "which was who." Sherman live traps were used, which, as the name implies, caught the mam-



MOVEMENTS OF MICROTUS NUMBER TWELVE

mals alive and uninjured. A trap was placed in each of the numbered sections, although, unfortunately, not enough traps could be obtained to cover the whole lot. A combination toe-and-tail-clipping system of marking was devised whereby each mammal caught was given a definite number. If an animal was caught again I had only to refer to my previous notes to discover which individual it was and where it had been taken before. In this manner the home ranges were to be determined.

At last the traps were baited and set and, with the preliminaries completed, the long-planned project got under way.

The lot, I found, was far from vacant, for at least twenty-six very much alive small mammals inhabited it. There were three classes of tenants, each with its own preferences and idiosyncrasies. First, there were the fawn and white deer mice, *Peromyscus*, those bright-eyed, big-eared, intelligent little beasties—first-class inhabitants. Then there were the meadow mice, *Microtus*, brindle brown with small eyes and ears. Not as quick moving or as friendly as the deer mice, still, they were rather nice to have around. Last, there were the shrews, *Blarina*, velvet-furred little bundles of nerves with their high-pitched squeaks and vibrating noses. Their odor, acrid and meaty, was only one trait which made them rather undesirable tenants.

The deer mice lived in that part of the lot that most resembled the woodland habitat, where the underbrush arched to form clear but protected natural paths and runways. The nine individuals of this genus (one is perhaps justified in estimating twenty-seven per acre) were active only at night. The home ranges of the deer mice were found to have a radius of twenty-five to forty feet. A lactating female had the smallest range because of the necessity of remaining close to her nest, and two adult males had the largest. An immature female shows the most interesting movements. On two nights she was caught in the same trap, then she moved to the diagonally opposite corner of the lot.

Trapping records were investigated, and it was found that her former home was rather crowded because four other animals were caught in the same trap at different times. This suggests that she had been driven out of her old home and was searching for a new one. Warble flies were found as parasites on one deer mouse.

The name "meadow mouse" was found to be well deserved, for the thirteen members of this genus (which would indicate thirty-nine per acre) were caught in the field-type section of the lot offering thick grass cover in which to burrow and tunnel and thus remain hidden. The meadow mice, while not restricted to either night- or day-time, were very much more active during the day. The radius of the home range of these mice was found to be from twenty to forty feet. *Microtus* Number Twelve, an immature male, had the greatest range, and his movements have been indicated on the accompanying diagram. Warble flies were found in two individuals of this genus. To date I have been unable to find any record of this type of parasite in a meadow mouse.

The shrews, of which there were four (possibly twelve per acre), did not seem to be restricted to either type of living quarters, but they rather preferred the grassy meadow habitat. They were unhampered as to their time of activity, for the members of this genus were equally active during the day and night. The exact home range of the shrews was not determined, but was probably larger than those of the deer mice and field mice. No evidences of parasitism were found in any of the individuals caught.

The weather conditions had no apparent effect on any of the small mammals, but the study was not carried on for a long enough period of time to get a wide and varying range of conditions.

Mice and shrews were not the only animals that lived on the lot, as some of them discovered, much to their sorrow. Several times during the week the traps were robbed—two or three times by a large gray cat and once by a chipmunk who somehow had acquired a bloodthirsty taste for those tenants smaller than himself.

One purpose of this project was to discover how the small mammal population of an area such as the one I studied compared with the populations of a country-meadow habitat and of a country-wood lot. Comparative percentages showed that the life of a vacant lot represents a near midpoint between the two types of habitat, although it possibly resembles the meadow more than the wood lot.

Perhaps the most interesting result of this project was the realization that, in the dim green underworld beneath the covering mat of weed tops, an opportunity as fascinating and absorbing as that offered farther afield was given to rediscover how complex and varied are the factors that regulate and influence the lives of all animals the world over.

◂ ▸

This young author, Shirley Anne MacMillan, completes her first year at Oberlin College this spring. Shirley did summer part-time work in three different departments of the Museum while a student at Edgewood High School, and earlier attended Junior Naturalist classes and the Natural Science Club on Saturdays at the Museum.

It is suggested that the reader might enjoy a "mice time" this summer in his own neighborhood. The Museum department of mammalogy will be glad to discuss methods of live trapping with anyone interested, and any information thus gained about mammals will be a welcome contribution.

NATURE CONTEST

The annual nature contest for children on Saturday, May 8, will have a slightly different form this year. In addition to the usual briefly worded identification of specimens of plants and animals, the participants will also write at some length, discussing certain subjects relating to the evolution of living things and to the geographical distribution of plants and animals.

A REPORT TO THE TAXPAYERS

By Ralph Munn
Director, Carnegie Library of Pittsburgh

A story familiar to all librarians relates to an old-time college librarian who was seen hurrying across the campus late one evening. A faculty colleague stopped him to inquire about the library. "Everything is fine," was the reply, "every book in its place except one, and I'm on my way to get it from Professor Smith now."

Those were the days when the librarian's duties were largely custodial. Today it is his first concern to get the books into the hands of readers, and any public librarian whose books are all in place should be summarily discharged by his trustees.

There were 2,918,142 empty spaces on the shelves of Carnegie Library and its branches during 1947, as Pittsburghers borrowed books for home reading. About half of the books were lent to boys and girls. Adults borrowed somewhat more nonfiction than novels.

What did they read? Public affairs claimed the interest of many. The newspapers and magazines do a good job of reporting and interpreting the news of the day, but books are needed to provide the background for fuller understanding.

Many readers make a real effort to crack the Russian enigma by studying the history of the country and the characteristics of its people, as well as by reading the current books relating to Russia. Many copies of Edward H. Carr's *The Soviet Impact on the Western World*, John Fischer's *Why They Behave Like Russians*, and Victor Kravchenko's *I Chose Freedom* were in constant use.

In conformance with its democratic character, the Library keeps materials on both sides of every question, but the disguised form of some of the Russian propaganda gives us concern. Earl Browder is known by every newspaper reader to be an avowed Communist, and his *War and Peace with Russia* will be read in the light of that knowledge. It is not so, however, with many of the committees which have adopted names connoting one-hundred-per-cent Americanism, but whose publications reflect quite different attitudes. The Library has endeavored to identify these subversive but patriotically named organizations, and it bans their publications from the open shelves where they might attract unsuspecting readers. These publications are preserved, however, in the Reference Department.

The Marshall Plan and Palestine ranked next to Russia among the public questions that brought readers to the Library. Domestic problems of special interest were labor, housing, and the likelihood of another depression.

Novel readers were offered poor fare in 1947. The staff committee that selected the Library's *Cross Section of 1947 Books* felt that its list should contain about fifteen novels. It was hard to find even so small a number of worthy entries. Pittsburghers wrote two of the novels that clearly belonged on this select list: Gladys Schmitt with *Alexandra*, and Preston Schoyer with *The Indefinite River*.

In its reports to its taxpaying "stockholders" the Library can use only quantitative measurements. We can report that nearly three million books were borrowed—and, we hope, thoughtfully read—during 1947. We cannot examine the borrower, however, to determine whether the book which he is returning has actually expanded his understanding. It must be taken as a matter of faith that the reading of well-chosen books is good not only for the soul but for the mind.

Much of the Library's expenditure

for staff and books is centered in its reference services. No books are lent, and the measure of these services is expressed in the number of inquiries received.

The Technology Department alone received 15,263 inquiries for information. The seven staff members are all trained in science or engineering, and it requires such training even to understand the questions, let alone to find the answers. Consider the following: What is the emissivity of molybdenum? What is the resistance to the flow of oil in steel pipes? What equipment is needed for submerged melt welding? Can gases be analyzed by measurement of their thermal conductivity?

The Technology Department is the workshop of men from the industrial laboratories of the district and from the faculties of neighboring institutions. With the aid of funds raised by the Pittsburgh Section of the American Chemical Society, its book collection is becoming strong enough to support advanced research in many of the scientific fields.

The development of the Technology Department has been the life work of Ellwood H. McClelland, who came to the Department in 1904, becoming its head four years later, but who will be lost to the Library in June 1948, through his retirement.

Also retiring in June is Alice Thurston McGirr, who has been associated with the Reference Department since her graduation from Vassar College and the New York State Library School, and who has been its chief since 1938. Miss McGirr is also well known as a book reviewer.

The Reference Department recorded 37,980 inquiries. They ranged from requests for information needed as evidence in important court cases, down to aid in identifying "Mrs. Hush." The reference librarians politely but firmly declined to be drawn into the contest type of questions because of the pressure of other demands.

Most of this pressure came from students, who have absorbed the Central Library's facilities to so great an extent as to bring occasional complaints from

PRESCHOOL STORY HOUR ATTRACTS THE YOUNGEST VISITORS TO THE LIBRARY

A LIBRARIAN HELPS GI STUDENTS SELECT THEIR BOOKS

general readers. It cannot be denied that rooms intended for other purposes, such as the Gillespie, Public Affairs, James Anderson, and Genealogy rooms have become study spaces, and that the Reference and Lending Departments are often filled to capacity.

It is regrettable that any general reader should feel he is being crowded out, but these earnest students, mostly veterans, must have access to books and study space. Student attendance is heaviest during the morning and early afternoon hours. General readers are being encouraged to make their use of the Library at later periods.

The Library has found that it must restrict student use of the bound files of periodicals. These files are intended for permanent preservation, to be used in research and other important study. During recent years the investigative theme has become a favorite assignment among college and high-school instructors. In its typical form each student must consult ten sources in his investigation. Educationally this research is sound; the result, however, has been the near destruction of irreplaceable periodical files.

The Art Division staff believes that fully half of Pittsburgh's residents are making plans for the small houses they hope to build. The other half are busying themselves with plans for remodeling and interior decoration.

Statistics from the Music Division affirm the city's genuine interest in all phases of music. The resources of the David H. Light Memorial Record Library were used by 6,838 listeners. It now owns 1,391 records, and its facilities were improved during 1947 by the addition of three earphone reproducing machines, the gift of Herman Light.

The Boyd Memorial Musicological Library Association gave its annual concert October first, the net proceeds being used to purchase books for the Music Division.

The publishers of two encyclopedias commissioned the Pennsylvania Division's librarian to write articles on Pittsburgh.

The Homewood branch library began experiments in group work which we hope to expand and eventually establish in other neighborhood branches. Noon-hour phonograph concerts are drawing a small but appreciative audience from a nearby Westinghouse factory. Educational motion pictures and discussion groups are being tried. Staff shortages are so critical that these extra services must be inaugurated with caution.

A new venture in the Central Boys and Girls Room has brought preschool children, with their mothers of course, for biweekly story hours. While the youngsters are listening to the narrator, the mothers meet in another room to

THE GARDEN OF GOLD

A Duquesne Club luncheon group of which the late William Frew was a regular member has been known for many years as "The Admiral's Barge." These friends have recently subscribed for a $100 sustaining membership in The Fine Arts and Museum Society of Carnegie Institute. Edward Duff Balken, trustee of Carnegie Institute and Carnegie Institute of Technology, has given a memorial gift of $100, and Mrs. John Crossan Dilworth, $25. These bring the total of gifts to the Society in memory of Mr. Frew to $800.

Carnegie Institute of Technology received gifts for endowment during February amounting to $3,218. These include an anonymous contribution of $2,442 for the Music Department Scholarship Fund and $600 from William M. Robinson, trustee of Carnegie Institute and Carnegie Institute of Technology, which will be added to the scholarship fund recently established by Mr. Robinson. Gifts of less than $100 each during the month amount to $176.

The Carnegie Library School has received $600, given anonymously by a friend. This will cover expenses of certain faculty and staff members who will go to selected colleges to recruit students for the Library School.

The list of contributors to the David H. Light Memorial Fund of the Music Division of Carnegie Library of Pittsburgh may be concluded, to date, with these names: Rita Weisbrode, Ella Wertheimer, Leon Wertheimer, T. Carl Whittmer, I. D. Wolf, and Mrs. A. R. Wolk.

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hear book reviews and other talks by staff members. Attendance never dropped below thirty, regardless of weather conditions.

More than 60,000 older children attended story hours at the Central and branch libraries. An additional 51,000 children heard Kathryn Kohberger, the Library's "story lady" to the children, whose recorded stories are carried into the public schools twice each week by station WCAE.

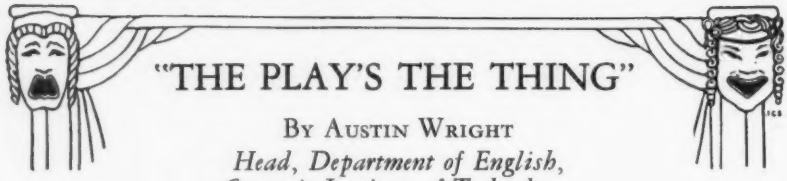
Service to program committees, clubs, and other groups carried the influence of the Library far beyond those who came to it.

The young women employed by the Bell Telephone Company are following courses of reading compiled during 1947 by the Reader's Consultant for the company's personnel training division. Members of the Public Health Nursing Association are also following a reading course designed by the Reader's Consultant.

The Public Affairs librarian served actively upon twelve city-wide committees relating to social work and interracial affairs,bringing the Library's viewpoint and services to each one. She addressed fourteen groups.

Each branch librarian took an active part in the community council and other groups in her own neighborhood.

Since this account is, in effect, a report to the taxpayers, it is appropriate that it be closed with a statement concerning finances. The City of Pittsburgh appropriated a total of $723,539. $192,000 was spent in the maintenance of the Library's portion of the Carnegie Institute building, and the branch libraries, and $531,000 was expended upon library activities. This included $384,000 for salaries, $81,000 for books and periodicals, $48,000 for binding, and $18,000 for supplies and miscellaneous services. In addition, $36,630 was spent from gift and trust funds for books and periodicals.



"THE PLAY'S THE THING"

By Austin Wright
Head, Department of English,
Carnegie Institute of Technology

Half a century ago the skeptical sophisticate and anti-clericalist who wrote under the pseudonym of Anatole France composed a naive and moving little tale entitled *Le Jongleur de Notre Dame*, which is probably more widely known than his more ambitious and significant works. This is so because in the story of Barnabas, the juggler turned monk, France suceeded in putting into nearly perfect language a folk tale treating a perennially appealing theme—that of the humble creature who, by giving his poor best to the service of God, wins heavenly recognition far surpassing that accorded to men of greater talents and more conventional piety.

Barnabas is dejected because the other monks are able to serve the Virgin worthily by composing edifying treatises, painting fine miniatures, illuminating the sacred writings, or carving stone images, while he, Barnabas, can do nothing. Then one day a happy thought strikes him, and thereafter he spends many hours in the chapel when it is deserted by the others. The Prior and two elders finally spy upon him, and are horrified to find him performing frenzied feats of juggling before the statue of Mary. Just as they are about to stop the sacrilege, however, they are terrified and exalted to see the Holy Virgin step from the altar to wipe the perspiration from the forehead of the exhausted and prostrate Barnabas.

This legend set the inventive mind of Russell B. Graves, a playwriting major in the department of drama at Carnegie Institute of Technology, wandering along a course uncharted by France and not followed, so far as I am aware, by any other writer. "What was the effect," mused Mr. Graves, "of this miracle upon the lives of the men who witnessed it?" His answer has taken the form of a play called *The Juggler*, which was produced at Tech last month under the direction of George McCalmon.

The prologue is devoted to dramatic presentation of part of the original story, ending with the witnessing of the miracle by Brother Ambrose, an elderly monk, and Brother Jacques, a pious novice. Then in the first of two acts is shown the reception of the news by the other monks and the local peasantry. Attention is focussed, however, upon Ambrose and Jacques, who quickly adopt opposing stands with regard to the miraculous occurrence that they alone have witnessed: Ambrose, a self-indulgent man in his sixties, devoted to chess, anxious to guard the peace which he considers his due in old age, shrinks from the ordeal of the inevitable ecclesiastical investigation and tries to persuade himself, and Jacques, that the miracle was a hallucination induced by bad beef; but Jacques, young and zealous, knows that what he saw was no illusion, and is determined to report the occurrence to the bishop. Neither his fellow-novice Brother Jean nor the sagacious Prior is able to dissuade him, and he is goaded by Ambrose's increasingly truculent insistence into making angry retorts which cast doubt upon his orthodoxy and make it possible for Ambrose, supported by the reluctant Jean, to raise the dread cry of "Heretic!"

The curtain rises upon Act II on the evening of a day a year later, when Jacques, his trial for heresy having resulted in his conviction, is supposed to have suffered death at the stake. He has escaped his executioners, however, and takes refuge in the hovel of Antoine, a

STUDENT ACTORS IN A SCENE FROM "THE JUGGLER"

thief. Here he is found in a state of exhaustion by the repentant Jean and then by the vindictive Ambrose, but by the time the hastily summoned Prior arrives, Jacques is dead.

This summary covers only the serious plot of *The Juggler*. In addition Mr. Graves introduces not only Antoine the thief, but an entertainer named Francois and his dancing bear Peter, several other entertainers, and a handful of peasants. These background characters are fairly prominent in the first act, and at the beginning of Act II four of them have a long scene devoted largely to comedy: Antoine is having a party to celebrate his renunciation of his evil career (he is going, instead, to open a school—a school, it turns out, for thieves), and it is upon this drunken revelry that the hunted Jacques intrudes on his flight from the stake.

There was probably more difference of opinion about *The Juggler* and the production given it at Tech than about any other play staged by the department of drama in recent years. My own reaction was mixed. I found much to carp at in the play itself, and the quality of some of the acting seemed below that which audiences are accustomed to at Tech; but Mr. Graves's play is an impressive achievement which makes one look forward with interest to other works by the author, and the striking sets designed by George Corrin, the sympathetic and sensitive direction, and several fine individual performances made the production very much worth seeing.

Some of the defects of the play stem from the material of which it is necessarily composed. For instance, important difficulties face author and director in the presentation of the essential elements of the original story in a single scene, the prologue. Ideally, the audience should first see Barnaby, as Barnabas is called, in his earlier life as a juggler, for though we are aware that he has been picked up from the roadside by the kindly Prior and given shelter in the order, we find it hard to accept a juggler-monk. Further, it is almost impossible to combine in one scene a quiet discussion in a room of the monastery, a convincing report of Barnaby's off-stage juggling before the rabble, and the poor fellow's act of devotion which brings about the miracle. Praise is due to the writer, however, for the swift and clever way in which he makes clear in the prologue the dissimilar characteristics of no fewer than five monks—the Prior, Ambrose, Jacques, Jean, and Barnaby.

Between the opening performance and the second performance that I saw, something like twelve minutes had been

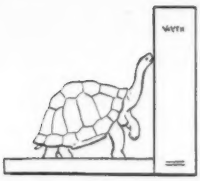
cut from Act I. This was a change for the better, because on opening night this act had dragged badly. There still remains one element which could and, in my opinion, should be eliminated: the entire role of Madeleine, the peasant girl who is trying to avoid a distasteful marriage. Not only does this theme occupy time and distract attention without providing compensatory interest, but the constant eavesdropping of this pertinacious though decorative young woman is improbable and irritating. She reappears in Act II, where again her presence is weakly motivated. One suspects that she exists for the sole and artistically meretricious reason that she provides one female role of some importance. Antoine the thief and Francois the bear-leader, on the other hand, are not only realistic characters in their own right but have significance as instruments of the plot, and the peasants are necessary to show the popular reaction to the miracle. As for Peter the bear, who so harsh as to wish to eliminate him? He never stepped out of character: he looked, behaved, and, for all I know, smelled exactly as a bear should. Further, Peter rising ponderously to his feet at the opening and closing curtain of Act I, and swaying in the dim light as the dejected Francois pipes a wistful strain, furnished brief scenes which, pictorially, were among the most effective in the play.

In the early part of Act II the scene of revelry in the hovel of Antoine was quite successful except for the length of the raucously shouted song *The Knight and the Maiden*, which dull ballad seemed as if it would go on forever—and very nearly did. The entrance of Jacques and the abrupt change of mood which follows were first-rate theatre, and the dialogue between Jacques and Jean and then between Jacques and Ambrose was deftly composed.

When all that can be said in criticism of *The Juggler* has been spoken, there remain two incontestable accomplishments to Mr. Graves's credit. First, he has presented a shrewd and memorable study of the difficulty of retaining one's intellectual and spiritual integrity in the face of the armies of indolence, selfishness, fear, and hatred. His play is reminiscent of Bernard Shaw's *St. Joan* and Franz Werfel's *The Song of Bernadette*, and in some respects of A. A. Milne's slighter *The Ivory Door*. And second, he has shown that he can write live, natural, and pungent dialogue, threaded with emotional power and a knowledge of human nature rare in so young a writer. Witness Ambrose's good-humored observations on youth and his cynical warnings to Jacques that defending the miracle will do more harm than good; the Prior's more subtle and kindly advice to the same effect; Jacques' tortured searching of soul; and Jean's heartbroken pleas for forgiveness.

Jacques was played with sincerity in both casts, and Ambrose was little short of excellent. I liked particularly the hearty Ambrose of the first cast, where the transformation from the essentially harmless and weak old man of the prologue to the cowardly and relentless prosecutor was highly realistic. The adroitly conceived role of Jean was performed colorlessly in the early part of the play but given genuine power in the last scene. There was a consistently skillful performance in the role of the Prior, and Antoine and Francois were vigorous and often amusing—particularly the Antoine of the first cast when he strove vainly to recount an exploit of thievery to his drunken and hilarious associates.

Though I may be accused of spurning at straws, I am perplexed by one element in *The Juggler*—the casual reception of the eating of Brother Paul by Peter the bear. True, Brother Paul was something of an old woman, but it is downright unfeeling of the monks to show greater concern over the theft of three pot roasts than over the unhappy fate of one of their brotherhood. Of course the audiences don't mind if the brothers don't. As one playgoer remarked, "It was hard on Brother Paul—but then, Peter was such a nice bear."



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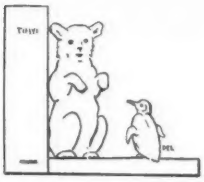

By M. Graham Netting

Curator of Herpetology, Carnegie Museum

VULPES, THE RED FOX By John L. George and Jean George. New York: E. P. Dutton and Co. 1948. 184 p., 58 illustrations. $2.50. Carnegie Library, Boys and Girls Department.

Some top-flight scientists are tall and gangling, others are short and rotund; some are austere, more are jovial; some are verbose, others chary of speech; many are indistinguishable in appearance from business executives, but a few conform to the cartoonists' stereotype of an ill-kempt, impractical, yet withal somewhat lovable, old putterer. Within such varied physiques and beneath such diverse carapaces there exists a common trait, a monkeylike curiosity that dins with metronomic regularity, "Where, how, why?"

This impelling curiousness, which, when coupled with tenacity and hard work, has been responsible for most human progress, is not the sole prerogative of scientists. It is well-nigh universal in children, and it survives in virtually all outdoorsmen and in many other grownups. It is, unfortunately, stifled in many children by parents constantly harassed with "why," or forced into "proper" channels by rigid educational formulas. I have never identified with certainty the Biblical unpardonable sin, but I am convinced that anything that inhibits juvenile curiosity about the world and its inhabitants is educationally unpardonable.

I once believed that children's books about animals should adhere to a certain pattern which included avoidance of personification, freedom from taint of anthropomorphism, and exclusion of all words not included in the average vocabulary of the age-level addressed. Fortunately, I did not attempt to review any children's books until my own children had freed me of these ill-conceived notions. I have learned that children can switch from the imaginative to the actual more quickly than adults, that they do not demand happy endings, and that they welcome, and take pride in using, big words if they are not too numerous. Above all, they like detail-rich stories that enlarge their understanding of known animals or places, or that introduce the unknown in familiar fashion. They are eager beavers after knowledge, their tastes are amazingly catholic, and they can take almost anything in their literature except romance.

Now I have different, and, I trust, sounder criteria for judging children's books on natural history. First, how well does the book answer the countless questions that children would put to a friendly naturalist narrating the same tale? Second, are the text, illustrations, and format capable of sustaining the youthful reader's interest? These criteria afford wider latitude of presentation, but require greater familiarity with the animal characters on the part of the author and artist. Many biologists avoid writing for children because they are so aware of their own ignorance of many aspects of animal life histories and feel incapable of presenting accurate and yet satisfactorily complete biographies.

This is the fictional but realistic biography of Vulpes, the smartest of seven pups born in a Maryland den in early April while a chill rain drenched the earth and the Potomac swirled in flood. From the time his eyes opened, after nine days of suckling and sleeping, he used all his senses to their fullest. He learned the smell of man and the call of Hyla, the spring peeper, along the abandoned canal below his home den. By June he was half grown and he

ranged farther and farther afield. He learned where to hunt crickets and grasshoppers and how to pounce on a mouse hidden in a tangled mat of grass. During sultry July days he stayed in the den with his brothers and sisters, emerging in the cool of the evening to chase rabbits and to assuage his hunger with lesser creatures. He spied on men and learned how they hunted. When "the persimmons ripened and swung like gold bells from the bare limbs of the trees," and the woods took on their autumn coloring, he discovered that he could outrun or elude questing hounds.

When winter came he was an accomplished hunter, and a magnificent fox. "Large for his kind, he was almost three and a half feet long, and weighed over thirteen pounds. . . . The first snows found him well prepared for his rigorous outdoor life. His deep bushy fur with its dense undercoat was as warm and fine as any that could be found in the woodland. As he moved across the winter scene, few animals could match the splendor of the colorful picture he made. His fur had taken on the rich lustrous beauty of the blended burnt orange, tawny yellows, ebony black and creamy whites of the mature fox."

After his first bachelor winter Vulpes lived a full life. He avoided skillfully set traps, he "outfoxed" hunters, he ranged afar to find Fulva and brought her back to his familiar haunts to mother annual litters of pups. Time after time he stood on the hill overlooking Buck Queen's farmhouse taunting Brownie, the Red Bone hound, to chase him. On one memorable occasion he survived a thirty-six hour chase that wore out Brownie, cost the life of another hound, and became part of the sporting annals of the community.

The wealth of detail woven skillfully into this biography is proof of the authors' familiarity with their subject. The sensitive yet realistic treatment of trapping and hunting is proof of their good sense. John George is a naturalist of wide experience in field and laboratory. Only one trained in wildlife studies or well-tutored by Dame Nature could write so knowingly about a rail fence as a woodland avenue or could indicate so clearly the opportunism involved in Bubo, the great horned owl's capture of Vulpes' small brother. Jean George grew up with two brothers, the Craighead twins, who are famed naturalists today, and she is doubly gifted as a writer and an artist. Both of the Georges are to be complimented upon the charm of a smoothly unfolding tale, but Mrs. George is to be lauded further for her vibrant illustrations, so effectively interpolated that they appear to be an integral part of the text. The rear view of a couching rabbit, the lovely outlined portrait of Vulpes opposite page 80, and Vulpes pouncing on a quail covey are unforgettable. I confess to a minor twinge of disappointment that, although so many aspects of Vulpes' life were illustrated, the full panoply of the fox hunt was omitted.

The authors have named many of the animal characters that appear in this book by using portions of their scientific names. Readers will find this a painless way of learning certain of the Latin names but one that may engender some confusion since specific names were used in certain instances, generic names in others.

By my standards, and I suspect by wholly different standards dear to the hearts of other reviewers, *Vulpes, the Red Fox* is an admirable book. Like most animal tales that have become classics, it is addressed to children but its appeal is universal. Anyone who has ever glimpsed a red fox in his native countryside—and those who have not have an outdoor thrill awaiting them—may be condoned for sidling into the Boys and Girls Department of the Library to borrow this book. To spare youthful readers such unfair competition, however, I suggest that adults satisfy their curiosity about the hazardous life of Vulpes by purchasing the book. They may then double their pleasure by reading it aloud with an appreciative youngster or so as audience.

INCIDENTALLY

Five Associated Artists paintings, shown in Latrobe after the Pittsburgh exhibit, have been purchased for The Latrobe High School Student Council Permanent Collection. These include *Charles* by Marcella Comes, *Senator Barber House* by Clifford A. Bayard, and *The Lazy Chair* by Joseph R. Frola, bought by the Latrobe High School Student Council; and *Big Top Melody* by Clifford E. Jones and *Light Snow* by Roy Hilton, bought by the Hundred Friends of Art for the Latrobe Public Schools.

The Boys and Girls Department of the Carnegie Library of Pittsburgh will hold its second annual meeting of librarians and friends interested in children's reading on May 7 at Central Library. "Human Relations in Children's Books" will be the theme. Elizabeth D. Briggs, of Cleveland Public Library, and Marie McSwigan, Pittsburgh author of children's books, will speak. Mrs. Alice K. Breiner, of East Liberty Branch, will review the spring publications.

Three more South American students will be awarded $1,000 fellowships for graduate study in engineering and science at Carnegie Institute of Technology next year by the Matthes Foundation. These fellowships, awarded annually, were established in 1946 by Albert J. Matthes, a Tech alumnus, president of Machinery Liquidating Company. Deadline for filing applications is April 15.

Current exhibits in New York and Philadelphia are of interest in connection with the local show of Sporting Prints and Paintings. Prints Relating to Fishing, owned by Evan Randolph, Esq., are on display at the Philadelphia Free Library until April 19; and at the New York Public Library are exhibited rare books on sports, illustrated in color.

B. Iden Payne, professor of drama at the University of Texas and former director of the Shakespeare Memorial Theatre at Stratford-on-Avon, has returned for a few months at Carnegie Tech to direct *The Taming of the Shrew*, which is being presented in the Little Theatre April 3-16. Mr. Payne has been associated with the Tech Drama Department since 1915, for a time as department head and, since then, as a visiting professor. Since the organization of the drama department in 1914, thirty Shakespearean plays have been staged in forty-two productions.

Visitors to Carnegie Institute and Carnegie Library of Pittsburgh numbered 87,735 in March.

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